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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,474	01/21/2004	Stefan A. Ionescu	STL11579	2916

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EXAMINER	
KAYRISH, MATTHEW	
ART UNIT	PAPER NUMBER
2627	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/761,474	IONESCU ET AL.	
	Examiner	Art Unit	
	Matthew G. Kayrish	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 27-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 27-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 1-26 have been considered but are moot in view of the new ground(s) of rejection. Claims 1 and 4-9 have been amended. Claims 2, 3 and 10-26 have been canceled. Claims 27-44 have been added.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9, 27 and 31-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Wada et al (US Patent Number 6972933).

Regarding claim 1, Wada et al disclose:

A preamplifier integrated circuit, comprising:

A preamplifier (figure 1, item 19, column 4, lines 26-36) connectable to an element (figure 1, item 11) having a susceptibility to damage from a potential (column 1, lines 23-30) over a threshold, the preamplifier configured to provide a current to the element (column 4, lines 26-36);

At least one terminal connectible to the element (figure 1, item 17); and

A passive (column 2, lines 43-45) non-linear (diodes are non-linear) shunt protective device (figure 1, items 20a thru 20d) connected to at least one terminal (figure 1, item 17), the passive non-linear shunt protective device providing a shunt conductance when the voltage potential is above the threshold (column 2, lines 46-52).

Regarding claims 4-7 and 36-39, Wada et al disclose:

The circuit of claim 1 wherein the passive non-linear shunt protective device comprises a static induction device/Schottky diode/Junction Schottky Barrier diode/Trench MOS Schottky Barrier diode (figure 1, items 20a thru 20d).

Regarding claim 8, Wada et al disclose:

The circuit of claim 1 further comprising a magnetoresistive element coupled to the at least one terminal (figure 1, item 11).

Regarding claims 9, 34 and 35, Wada et al disclose:

The circuit of claim 8 wherein the magnetoresistive element comprises a spin tunneling junction magnetoresistive transducer (column 2, lines 65-67).

Regarding claims 27 and 40, Wada et al disclose:

A head stack assembly comprising:

A data storage assembly (abstract), comprising:

An element having a susceptibility to damage from a voltage potential that exceeds a threshold (column 1, lines 23-30);

A first flex circuit coupled to the element (figure 1, item 10);

A preamplifier (figure 1, item 19), the first flex circuit providing at least one electrical connection from the preamplifier to the element (figure 1, item 18 connects items 11 & 19); and

A non-linear shunt protective device (figure 1, items 20a thru 20d) coupling the preamplifier and the element (figure 1, items 20a thru 20d couple the preamplifier to the element), the non-linear shunt protective device providing a shunt conductance when the voltage potential is above the threshold (column 2, lines 46-52).

Regarding claim 31, Wada et al disclose:

The data storage device of claim 27, further comprising a second flex circuit (figure 1, item 21), wherein the preamplifier is located on the second flex circuit (figure 1, item 19).

Regarding claim 32, Wada et al disclose:

The data storage device of claim 31, wherein the non-linear shunt protective device is located on the second flex circuit (figure 1, items 20a-20d).

Regarding claim 33, Wada et al disclose:

The data storage device of claim 32 further comprising a disc drive (column 1, lines 5-6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 28-30 and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wada et al, in view of Hogg (US Patent Number 7009820).

Regarding claims 28 and 41, Wada et al, according to figure 1, teaches all features of the instant claimed invention (see the rejection above), but fails to specifically disclose:

Wherein the non-linear shunt protective device is located on the first flex circuit.

Hogg discloses:

Wherein the non-linear shunt protective device is located on the first flex circuit (figure 8b).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the ESD protective circuit as close to the read/write head as possible, as taught by Hogg, because this would allow the ESD protection circuit to act immediately to protect the head.

Regarding claim 29, Wada et al fails to specifically disclose:

Wherein the element is located on a read/write head.

Hogg discloses:

Wherein the element is located on a read/write head (figure 8b).

Regarding claim 30, Wada et al:

Wherein the non-linear shunt protective device is located on the read/write head.

Hogg discloses:

Wherein the non-linear shunt protective device is located on the read/write head (figure 8B displays the ESD protective element on the same circuit as the MR element).

Regarding claim 42, Wada et al disclose:

The head stack assembly of claim 41, wherein the first circuit board is a flexible circuit board (column 2, lines 58-60).

Regarding claim 43, Wada et al fails to specifically disclose:

Wherein the element is located on a substrate and the non-linear shunt protective device is located on the substrate.

Hogg discloses:

Wherein the element is located on a substrate and the non-linear shunt protective device is located on the substrate (figure 8b, item 18 (slider) is the substrate).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the ESD protective circuit as close to the read/write head as possible, as taught by Hogg, because this would allow the ESD protection circuit to act immediately to protect the head.

Regarding claim 44, Wada et al disclose:

Wherein the preamplifier integrated circuit is a multiple channel preamplifier integrated circuit is a multiple channel preamplifier integrated circuit (figure 1, item 19 has two channels).

Claim Rejections - 35 USC § 112

Claim 44 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 44 refers to the preamplifier integrated circuit of claim 40, however, there isn't a preamplifier integrated circuit claimed in claim 40.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew G. Kayrish 1/25/2007

MK

1/25/07

THANG V. THAN
PRIMARY EXAMINER